Group Art Unit: 2831

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the

application.

**Listing of Claims:** 

Claims 1-76 (Canceled)

77. (Previously Presented) A cable having a central axis, the cable comprising:

a plurality of twisted pairs of conductors; and

a jacket defining a central passage in which the plurality of twisted pairs of conductors is located, the central passage including air, the air in the central passage occupying a volume between the plurality of twisted pairs of conductors, the jacket including legs that project inwardly toward the central axis of the cable, the jacket defining channels located between the legs, the channels including air, the air in the channels being in fluid communication with the air in the central passage that occupies the volume between the plurality of twisted pairs of conductors, each of the channels having two opposing sides, a side interconnecting the two opposing sides, wherein the side interconnecting the two opposing sides forms discretely identifiable corners with the two opposing sides, and an open side that faces inwardly toward the central axis, the channels having lengths that run along a length of the jacket, and the number of channels being greater than the number of twisted pairs of conductors.

78. (Previously Presented) The cable of claim 77, wherein the plurality of twisted pairs of

conductors includes 4 twisted pairs of conductors.

79. (Previously Presented) The cable of claim 77, wherein each of the conductors of the

plurality of twisted pairs of conductors is covered by a separate insulation layer.

Group Art Unit: 2831

80. (Previously Presented) The cable of claim 77, wherein the twisted pairs of conductors generally do not occupy the channels.

81. (Previously Presented) The cable of claim 77, wherein the channels each have a crosssectional area of at least .00002 square inches.

82. (Previously Presented) The cable of claim 77, wherein the jacket has a thickness less than about .030 inches.

83. (Previously Presented) The cable of claim 77, wherein the jacket comprises a plastic material.

84. (Previously Presented) The cable of claim 83, wherein the plastic material includes a fluoropolymer.

85. (Previously Presented) The cable of claim 83, wherein the plastic material includes polyvinyl chloride.

86. (Cancelled)

87. (Cancelled)

88. (Cancelled)

89. (Currently Amended) A data transmission cable comprising:

four or fewer twisted pairs of data transmission conductors; and

a jacket within which the four or fewer twisted pairs of data transmission conductors are located, the jacket defining interior channels that are circumferentially spaced relative to one another about the four or fewer of twisted pairs of data transmission conductors, the interior

Group Art Unit: 2831

channels defining legs thereinbetween that project inwardly toward a central axis of the jacket, the legs being attached to the jacket at outer ends and the legs having free, unattached inner ends, the interior channels each having an open side that faces inwardly toward the central axis of the jacket, the four or fewer twisted pairs of data transmission conductors being exposed to gas within the interior channels, the four or fewer twisted pairs of data transmission conductors generally not occupying the interior channels, wherein the four or fewer twisted pairs of data transmission conductors and wherein the four or fewer twisted pairs of data transmission conductors and wherein the four or fewer twisted pairs of data transmission conductors are twisted around each other to define a core having diameter less than about .25 inches.

- 90. (Cancelled)
- 91. (Previously Presented) The cable of claim 89, wherein each of the data transmission conductors of the four or fewer twisted pairs of data transmission conductors is covered by a separate insulation layer.
- 92. (Previously Presented) The cable of claim 89, wherein number of interior channels is greater than the number of twisted pairs of data transmission conductors.
- 93. (Previously Presented) The cable of claim 89, wherein the interior channels are generally rectangular in cross-sectional shape.
- 94. (Previously Presented) The cable of claim 89, wherein each of the interior channels has a cross-sectional area less than about 30 percent of a total cross-sectional area of the jacket.
- 95. (Previously Presented) The cable of claim 89, wherein the cable includes an inner portion surrounding the four or fewer twisted pairs of data transmission conductors and an outer portion surrounding the inner portion, the inner portion including the interior channels such that a composite density of the inner portion is less than a composite density of the outer portion.

Serial No. 10/790,583 Group Art Unit: 2831

- 96. (Previously Presented) The cable of claim 95, wherein a signal speed at the inner portion is at least 2% greater than a signal speed at the outer portion.
- 97. (Previously Presented) The cable of claim 95, wherein a signal speed at the inner portion is at least 5% greater than a signal speed at the outer portion.
- 98. (Previously Presented) The cable of claim 95, wherein a signal speed at the inner portion is at least 10% greater than a signal speed at the outer portion.
- 99. (Cancelled)
- 100. (Currently Amended) A data transmission cable comprising:

four or fewer twisted pairs of data transmission conductors, the four or fewer twisted pairs of data transmission conductors defining a core; and

a jacket defining an interior passage that extends along a length of the jacket, the interior passage including a central region including air and a peripheral region, the four or fewer twisted pairs of data transmission conductors being positioned within the central region, the air in the central region occupying a volume between the four or fewer twisted pairs of conductors, the peripheral region of the interior passage including a plurality of channels that are circumferentially spaced relative to one another about the central region of the interior passage, the channels including air, the air in the channels being in fluid communication with the air in the volume of the central region between the four or fewer twisted pairs of data transmission conductors, the number of channels being greater than the number of twisted pairs of data transmission conductors; and the core including a separator.

101. (Previously Presented) The cable of claim 100, wherein the four or fewer twisted pairs of data transmission conductors include 4 twisted pairs of data transmission conductors.

Group Art Unit: 2831

102. (Previously Presented) The cable of claim 100, wherein each of the data transmission

conductors of the four or fewer twisted pairs of data transmission conductors is covered by a

separate insulation layer.

103. (Previously Presented) The cable of claim 100, wherein the four or fewer twisted pairs of

data transmission conductors are twisted around each other to define a core having diameter less

than about .25 inches.

104. (Currently Amended) A data transmission cable comprising:

four or fewer twisted pairs of data transmission conductors, each of the four or fewer

twisted pairs of data transmission conductors being covered by a separate insulation layer, the

four or fewer twisted pairs of data transmission conductors defining a core; and

a jacket defining an interior air passage that extends along a length of the jacket, the

interior air passage having a central region including air and a peripheral region including air, the

core being located within the central region of the interior air passage with the core being

exposed to the air in the central region, the peripheral region of the interior air passage including

a plurality of channels that are circumferentially spaced relative to one another about the core,

the plurality of channels including air, the air in the plurality of channels being in fluid

communication with the air in the central region to which the core is exposed, the jacket

including an inner portion at which the plurality of channels is defined and an outer portion that

surrounds the inner portion, the number of channels being greater than the number of twisted

pairs of data transmission conductors; and the core including a separator.

105. (Previously Presented) The cable of claim 104, wherein each of the channels has a cross-

sectional area less than about 30 percent of a total cross-sectional area of the jacket.

106. (Previously Presented) The cable of claim 104, wherein a signal speed at the inner

portion is at least 2% greater than a signal speed at the outer portion.

Group Art Unit: 2831

107. (Previously Presented) The cable of claim 104, wherein a signal speed at the inner

portion is at least 5% greater than a signal speed at the outer portion.

108. (Previously Presented) The cable of claim 104, wherein a signal speed at the inner

portion is at least 10% greater than a signal speed at the outer portion.

109. (Previously Presented) The cable of claim 104, wherein the channels each have a cross-

sectional area of at least .00002 square inches.

110. (Previously Presented) The cable of claim 104, wherein the jacket has a thickness less

than about .030 inches.

111. (Previously Presented) The cable of claim 104, wherein the jacket comprises a plastic

material.

112. (Previously Presented) The cable of claim 111, wherein the plastic material includes a

fluoropolymer.

113. (Previously Presented) The cable of claim 111, wherein the plastic material includes

polyvinyl chloride.

114. (Currently Amended) A data transmission cable comprising:

four or fewer twisted pairs of data transmission conductors, the four or fewer twisted

pairs of data transmission conductors defining a core; and

a jacket defining a single passage with a central region in fluid communication with a

peripheral region, the four or fewer twisted pairs of data transmission conductors being

positioned within the central region, the jacket including an inner portion and an outer portion,

the inner portion of the jacket including a plurality of projections that project inwardly from the

outer portion of the jacket, the projections having inner unattached ends that define an outer

boundary of the central region of the single passage, the jacket defining air channels between the

projections, the four or fewer twisted pairs of data transmission conductors being exposed to air

Group Art Unit: 2831

within the air channels, the air channels each being visible when the data transmission cable is viewed in transverse cross-section, the air channels forming the peripheral region of the single passage, the number of air channels being greater than the number of twisted pairs of conductors: and the core including a separator.

(Previously Presented) The cable of claim 77, wherein the channels are generally 115. rectangular in cross-sectional shape.

116. (Cancelled)

117. (Previously Presented) The cable of claim 100, wherein the channels are generally rectangular in cross-sectional shape.

118. (Previously Presented) The cable of claim 104, wherein the channels are generally rectangular in cross-sectional shape.

119. (Previously Presented) The cable of claim 114, wherein the air channels are generally rectangular in cross-sectional shape.

- 120. (Previously Presented) The cable of claim 79, wherein the plurality of twisted pairs of conductors covered by a separate insulation layer has an overall dielectric constant less than 2.0.
- 121. (Previously Presented) The cable of claim 79, wherein the insulation layer defines channels exposed to a conductor of the plurality of twisted pairs of conductors and also includes closed channels that are not exposed to the conductor of the plurality of twisted pairs of conductors.
- 122. (Previously Presented) The cable of claim 79, wherein a conductor covered by a separate insulation layer has a diameter less than about .042 inches.

Group Art Unit: 2831

123. (Previously Presented) The cable of claim 79, wherein the separate insulation layer has a

thickness less than about .01 inches.

124. (Previously Presented) The cable of claim 77, wherein the plurality of twisted pairs of

conductors includes first and second twisted pairs of conductors each having a separate

insulation layer with channels, a cross-sectional area of the channels of the first twisted pair of

conductors being different than the cross-sectional area of the channels of the second twisted pair

of conductors.

125. (Previously Presented) The cable of claim 77, wherein the cable complies with a test

selected from the group consisting of The National Fire Prevention Association 255, The

National Fire Prevention Association 259, The National Fire Prevention Association 262 or

combinations thereof.

126. (Previously Presented) The cable of claim 77, wherein the jacket includes at least six of

the channels.

127. (Previously Presented) The cable of claim 77, wherein a shape of at least one of the

channels is selected from the group consisting of rectangular, trapezoidal and arched.

128. (Previously Presented) The cable of claim 77, wherein the plurality of twisted pairs of

conductors are twisted around each other to define a core, the core including an element selected

from the group consisting of a copper conductor, insulation, a shield, a separator and

combinations thereof.

129. (Previously Presented) The cable of claim 77, wherein the jacket is extruded through the

use of an extrusion tip that includes a bore and a number of radially arranged grooves that extend

along a longitudinal axis of the extrusion tip, wherein, during the extrusion process, the

conductors are fed through the bore and the grooves create legs defining the channels of the

jacket.